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PACKAGING OF AIRLINE SUPPLIES

ATA Specification No. 300

A260

SPECIFICATION

for

PACKAGING OF AIRLINE SUPPLIES

ATA SPECIFICATION NO. 300
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INTRODUCTION

1. PURPOSE

This functional specification establishes guidelines for the packaging of aircraft parts and supplies shipped to an airline and contains minimum requirements of the airline industry to be used in the design, development, and procurement of effective packaging. Sufficient flexibility has been incorporated in these guidelines to permit desirable technological developments in the packaging field.

2. APPLICATION OF STANDARDS

Each individual airline will decide itself whether to adopt these guidelines or other standards to define its packaging requirements. Unless and until an airline adopts such guidelines as controlling in its relationships with suppliers, such guidelines have no legal effect.

The Air Transport Association (ATA) does not certify or approve shipping containers or designs as being in compliance with this specification.

To the extent these guidelines are based on provisions of the Code of Federal Regulations or other legal requirements, they will be deemed amended automatically to reflect any future amendments in those requirements.

3. GENERAL DESCRIPTION

ATA Spec 300 is organized into chapters, each to provide packaging instructions for repairable and expendable units and components. Chapter 1 establishes standards which are applicable to the packaging of all parts and supplies. Chapters 2 and 3 outline additional requirements for repairables and expendables. Chapter 4 provides packaging standards for kits. Chapter 5 provides regulatory references and guidance for shipping hazardous materials. Chapter 6 contains standards for packaging and handling electrostatic discharge sensitive devices. Chapter 7 and 8 outline requirements for Category I, II, and III containers.

Appendices contained within this specification for common and detailed instructions include:

- I Markings
- II Inspection/Tests
- III Glossary of Terms

4. OBJECTIVES

The primary intent of this specification is to foster the development and standardization of commercial airline packaging which will:

- Provide sufficient protection with a minimum of tare weight and cube consistent with optimum packaging versatility.
- Ensure proper identification of material and containers.
- Eliminate shipping damage due to packaging.
- Reduce packing and unpacking costs.
- Promote environmentally conscious packaging.

5. PACKAGING REQUIREMENT CODES

Information regarding the packaging requirements of aircraft spare parts shall be provided to the airline by the supplier in accordance with ATA Specification 200/2000. Refer to *Specification 2000 Data Dictionary - International Specification* for current references of codes and definitions, including the Packaging Codes on page P-1. Information shall indicate if the aircraft part requires special packaging, marking, labelling, or handling when in transportation or storage because it is:

- Delicate (sensitive to shock or vibration)
- Hazardous material
- Kitted (part of a kit)
- Electrostatic discharge sensitive
- Magnetic field sensitive
- Shelf life sensitive

In addition to these packaging requirement codes, the ATA Spec 200/2000 Initial Provisioning Chapter requires suppliers to provide technical and descriptive data on all parts.

6. MAINTENANCE

ATA Specification 300 is maintained through a task force under the ATA Materiel Management Committee. Users of Specification 300 are encouraged to suggest changes to it. Proposed changes to this specification should be submitted in writing to the Engineering, Maintenance and Materiel Department, Air Transport Association of America. Such changes, when approved, will be published by revision to the Specification.

PACKAGING OF REPARABLE PARTS

1. PURPOSE

To provide packaging requirements for repairable parts which are required to be packaged individually in reusable shipping containers in accordance with this specification.

2. APPLICATION OF STANDARDS

All repairable items which may be removed from the aircraft and economically restored to a fully serviceable condition and having a supporting Overhaul Manual (OHM) with a Recommended Spares Part List or a Component Maintenance Manual (CMM) with a matching 'T' File shall be shipped to an airline customer in reusable shipping containers. This requirement is specified because of the need to protect the item through shipment, handling, and storage up to the moment of installation, and to repeat the cycle for the life of the item.

For the purpose of this specification, reusable shipping containers are designated as follows:

Category I -	Reusable for a minimum of 100 round-trips
Category II -	Reusable for a minimum of 10 round-trips
Category III -	Reusable for a minimum of 1 round-trip (when used for repairable parts, see also chapter 8)

The above categories are differentiated by materials used in the container construction and tests described in this specification.

When it is impractical to individually package minor repairable items in a shipping container (small size, configuration, etc.), they may be packaged in unit containers for consolidation in shipping containers for shipment (see chapter 3).

Items separately packaged in individual containers may be consolidated into single or multiple overwraps for shipping.

Consideration of the special packaging, shipping, handling and storage aspects of components shall be provided by the manufacturer because of its superior knowledge of its products. This information should be made available sufficiently in advance of delivery of the unit to the customer to permit orderly physical and financial planning. This information shall include shock sensitivity, magnetic field sensitivity, hazardous materials classification, electrostatic discharge sensitivity, etc.

Some parts may require additional protection not prescribed by this specification and this specification does not limit or prescribe the additional protection may be required beyond the scope of this document.

Manufacturers shall publish and provide size (length, width and depth or detailed outline drawings showing all external dimensions if required due to a peculiar part configuration) and gross weight along with any applicable information required under section 1.5 of this specification. Manufacturers shall provide this data on all line replaceable units.

Unless a Category I container has been requested by the customer, the supplier of a repairable item as defined in this specification shall ship in a Category II container designed in accordance with the requirements of this specification.

Category I and II reusable shipping containers received by a supplier with equipment to be installed in an aircraft prior to delivery, shall be retained and returned to the container owner. Where customer identity cannot be determined containers shall be forwarded to the original manufacturer.

Suppliers receiving parts to be repaired in an airline's Category I or II container must reuse that container for a shipment back to the airline unless the container proves to be unfit for providing part protection. In this event, a replacement container shall be provided for that unit upon shipment.

3. SPECIAL PACKAGING REQUIREMENTS

Shelf Life and Storage Instructions

The manufacturer of the unit or component shall establish and inform the customers of the shelf life and storage instructions of its products. Items subject to abnormal deterioration, corrosion or chemical reaction in storage by exposure to liquids, vapors, gases, or dust shall be packaged in air-tight containers or wraps constructed of inert materials treated to neutralize any captive air with non-toxic results. Marking of each unit package shall be in accordance with Appendix I.

Magnetic Fields

Assemblies or components which generate a magnetic field must be packaged and properly spaced in shielding materials which will prevent the magnetic field from adversely affecting adjacent items and instrumentation. In addition, when a part is susceptible to damage from magnetic fields, the container shall provide necessary shielding from outside sources.

Electrostatic Discharge Sensitive Devices

Items subject to electrostatic damage shall be packaged, marked and/or labeled and handled in accordance with Chapter 6 of this specification.

Hazardous Materials

Articles, materials and substances which have been designated as being capable of posing an unreasonable risk to health, safety, and property by the applicable dangerous goods regulatory document shall be packaged in accordance with Chapter 5 of this specification.

Delicate Materials

Items which are easily damaged when subjected to shock or vibration found in normal transportation must have those fragility characteristics documented by the manufacturer. This includes damage boundary curves or a recommended G-levels and acceleration for a given drop height.

Parts Containing Fluids

Where fluids such as jet fuel or hydraulic fluid are present in an aircraft part, the container and/or packing material must be capable of containing that fluid in the event of a leakage from the part. Cushioning material which is permanently attached to the container or intended to be reusable shall not be capable of absorbing the fluid.

PACKAGING OF EXPENDABLE AND MINOR REPAIRABLE PARTS

1. PURPOSE

To provide packaging requirements for expendable and minor repairable parts which are not required to be packaged in reusable shipping containers by Chapter 2.

2. APPLICATION OF STANDARDS

All provisions of Chapter 1 of this specification apply to the packaging of expendables and minor repairable items.

The special packaging requirements of Chapter 2 paragraph 3 also apply to expendable and minor repairable parts.

Items are categorized under Class A and B to determine the package quantity. If an item is not directly referenced below, it is to be categorized according to the nature of the product and its intended use.

Class A Material

Abrasive wheels (3" diameter or larger)
Bearings, and/or higher assemblies containing bearings
O rings, seals and packings (excluding Class B material)
Radioactive components
Magnetic components
Electrostatic discharge sensitive components
Sensitive, precision, delicate components
Sterile units, oxygen masks, headphones, ear plugs
Matched sets must be packaged in one unit pack
Hoses having a shelf life requirement
Carbon seals
Internal engine parts (System 72 per ATA Spec 100) normally assigned to a shop pool and repaired within an airline's facility (engine modules not included in this category)
Internal brake assembly parts (Systems 32-40 per ATA Spec 100)
Cables which are damaged by bending or coiling

Class B Material

Fabricated non-precision components
Raw or bulk stocks
Standard SAE, AN, MS, NAS, AGS, JAN type hardware
Commercial hardware
Paper products
Catering and commissary supplies
Fabricated hoses and flexible lines when protected with end caps
Metal and teflon O rings, seals and packings

This list of classified descriptions is to provide a guide and does not restrict expansion nor reduce the need to use sound packaging practices.

All Class A material and minor repairable items shall be packaged individually in Category III shipping containers unless excepted by a paragraph in this chapter.

All Class B expendable items may be packaged in quantities greater than one.

When practical, Class A material and minor repairable items may be individually placed in small unit containers to be consolidated into a larger Category III shipping container. This is acceptable only if the parts can be subjected to normal on-site warehousing and material handling operations while in their unit containers without requiring additional packaging to prevent damage.

In the event that a unit container is used for a minor repairable part which will generally require reshipment to final users at off site field locations, that unit container shall be capable of being used as a shipping container without requiring additional packaging.

If the standard issue quantity from inventory to a final user is always greater than one, packaging may be done in the standard issue quantity which applies.

This information will be published in a price list placed adjacent to the item to which it applies.

PACKAGING OF KITS

1. PURPOSE

The purpose of this chapter is to provide packaging, marking, and kit contents list requirements when preparing kits for shipment.

2. APPLICATION OF STANDARDS

Kits are made up of repairable or expendable items needed to accomplish modifications outlined in service bulletins or to facilitate a particular installation. A kit may consist of a single item or it may be complex and composed of hundreds of items. In either case the kit must be assembled, packaged, and clearly identified in order that the contents may be protected during transportation and storage, and immediately accessible for orderly issue and accomplishment of the work.

Kit items that fit the criteria of a repairable shall be packaged per Chapter 2 of this specification.

Kit items that fit the criteria of an expendable or minor repairable shall be packaged per Chapter 3 of this specification.

Kit items that have been determined to be a hazardous material shall be packaged and marked in accordance with the applicable regulatory agency referenced in Chapter 5 of this specification. Special attention should be given to additional requirements associated with overpacks and compatibility of products.

Kit items that have been determined to be an electrostatic discharge sensitive device shall be packaged per Chapter 6 of this specification.

3. KIT DETAIL PACKAGE MARKINGS

The following information is required on all unit and intermediate packages. Reference Appendix II for marking methods.

(A) Part number
(B) Nomenclature
(C) Quantity and unit of issue
(D) Special markings (serial number, cure date, etc.) as applicable

4. SHIPPING CONTAINER MARKINGS

One (1) Kit Packed in One (1) Container - Mark one (1) kit packed in one (1) container with the following information:

(A) Kit part number
(B) Nomenclature
(C) Quantity and unit of issue
(D) Special markings (serial number, cure date, etc.) as applicable

EXAMPLE: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876

One (1) Kit Packed in Multiple Containers - Mark one (1) kit packed in multiple containers with the following information:

(A) Kit part number
(B) Nomenclature
(C) Quantity and unit of issue (1 EA, 2 LB., etc.)
(D) Special markings (serial number, cure date, etc.) as applicable
(E) Box number and total number of boxes

EXAMPLE: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876
BOX 1 OF 3

Multiple of One (1) Kit in Multiple Containers - Same information as one (1) kit packed in multiple containers, see paragraph 4.4.3.2.2 with additional data:

EXAMPLE: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876
KIT 2 BOX 3 OF 3

5. KIT CONTENTS LIST

Each kit will have a kit contents list enclosed within the package in an easily accessible location. The kit contents list shall include:

(A) Kit part number
(B) Detail part number, nomenclature, quantity, and unit of measure on all items that make up the kit

Kit contents list shall be printed on white paper in light-fast black ink in approximate standard elite type.

PACKAGING OF HAZARDOUS MATERIAL

1. PURPOSE

The purpose of this specification is to identify the applicable regulatory documents that govern the commercial transport of hazardous materials and substances and to describe materials subject to those regulatory documents. Regulatory and legal requirements may change before the next revision of this specification. Therefore, it is the responsibility of the user of this specification to assure that all current regulatory and legal requirements are met.

The term Hazardous Materials includes Hazardous Substances, Hazardous Wastes, Marine Pollutants, and Elevated Temperature Materials.

2. APPLICATION OF STANDARDS

This chapter identifies those materials and substances (Hazardous Materials, Dangerous Goods, Restricted Articles) which have been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which have been so designated. These materials and substances are defined and listed in 49 CFR Parts 171, 172, 173 and as authorized in 49 CFR 171.11, the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO). Materials and substances include the following:

Hazard Class 1(Explosives and Blasting Agents)
Divisions 1.1 through 1.6, Compatibility Groups A, B, C, D, E, F, G, H, J, K, L, N, S

Hazard Class 2 (Compressed Gases, Liquefied Gases, Refrigerated Liquified Gas, and Gases in Solution)
Division 2.1 (Flammable Gas)
Division 2.2 (Non-Flammable Gas)
Division 2.3 (Toxic/Poison Gas)

Hazard Class 3 (Flammable and/or Combustible Liquids)

Hazard Class 4 (Flammable Solids, Spontaneously Combustible Materials, and Dangerous When Wet Materials)
Division 4.1 (Flammable Solids)
Division 4.2 (Spontaneously Combustible Materials)
Division 4.3 (Dangerous When Wet Materials)

Hazard Class 5 (Toxic and Infectious Substances)
Division 5.1 (Oxidizing Substances)
Division 5.2 (Organic Peroxides)

Hazard Class 6 (Toxic and Infectious Substances)
Division 6.1 (Toxic or Poisonous Substances)
Division 6.2 (Infectious Substances or Etiological Agents, and Biological Products)

Hazard Class 7 (Radioactive Materials; any article or substance with a specific activity greater than 70 kBq/kg)

Hazard Class 8 (Corrosives, liquid or solid)

Hazard Class 9 (Miscellaneous Hazardous Materials - DOT or Miscellaneous Dangerous Goods - ICAO)

Class 9 consists of the following:

- Asbestos
- Dry Ice
- Life-Saving Appliances (life vests, evacuation slides, life rafts and survival kits)
- Engines, internal combustion and vehicles
- Polymeric beads
- Battery-powered Vehicles
- Zinc dithionite
- Substances, liquid or solid, which have a noxious, anesthetic or similar properties which could cause extreme annoyance or discomfort to passengers and/or flight crew members
- Magnetized materials
- Substances and materials formerly found in DOT Classes ORM-A, ORM-B, and ORM-C have been reclassified under HM181. In general, the materials classified as ORM-A have been placed in Class 6, ORM-B in Class 8, and ORM-C in Class 9
- Environmentally hazardous substances, including wastes, liquid or solid, formerly found in DOT Hazard Class ORM-E (Substances which do not

meet the criteria for any other DOT/ICAO Hazard Class but, are regulated by the U.S. Environmental Protection Agency), when offered in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) listed in appendix A to 49 CFR 172.101

- DOT Hazard Class ORM-D (Consumer commodities) as defined in 49 CFR 171.8

NOTE: DOT/ICAO Hazard Classes 3, 7, and 9 are not sub-divided into Divisions.

Some materials and substances may be forbidden for transport by air. However, some which are forbidden for transport by air may be authorized for carriage under an Exemption, Special Permit or Competent Authority issued by the U.S. Department of Transportation, Associate Administrator for Hazardous Materials Safety.

3. REGULATORY DOCUMENTS

In determining the specifications for packaging designed, constructed, maintained, and filled with Hazardous Materials, Dangerous Goods or Restricted Articles, the following regulatory documents must be consulted. Users should assure that they consult the most recent version of these documents.

1.United States Department of Transportation (DOT), Title 49, Code of Federal Regulations, Parts 100 through 199.

2.International Civil Aviation Organization (ICAO) - Technical Instructions for the Safe Transport of Dangerous Goods by Air (as authorized under Title 49, Code of Federal Regulations Section 171.11).

3.International Air Transport Association (IATA), Dangerous Goods Regulations.

4.United States Department of Transportation (FAA), Title 14 Code of Federal Regulations, Sections 121.133, 121.135, 121.433, 121.574, 125.73, 135.23, 135.333, and 139.51.

5.International Maritime Organization (IMO) - International Maritime Dangerous Goods Code (for transport of dangerous goods by sea).

4. PHYSICAL REQUIREMENTS

Hazardous Materials or Substances, Dangerous Goods and Restricted Articles shall be properly classified, described, packaged, marked, labeled, documented and in condition for transport in compliance with applicable regulations and instructions.

Packaging - General Requirements

All Hazardous Materials and Substances must be packaged as required in the regulatory documents listed in this chapter. This includes both UN specification packaging and non-specification packaging.

Both UN Specification packaging and non-specification packaging shall be in accordance with ICAO Part 3 or the IATA DGR Sections 5 and 10, or with 49 CFR Parts 173 and 178 when applicable and authorized by 49 CFR Section 171.11.

UN Specification Packaging or Performance Oriented Packaging (POP) must also conform to certain specifications given by packaging type, and will generally require performance testing as specified in the regulatory documents. These test specifications take into account the materials used, construction design, and whether the materials to be transported are liquid or solid. The severity of the tests is dependent upon the intended contents, the degree of danger, the relative density of the material and the vapor pressure (for liquids).

Packaging developed within the United States must also be able to pass certain U.S. Department of Transportation requirements such as a vibration standard (49 CFR Section 178.608).

Packaging of Material which is Property of the Operator

Some aircraft parts and supplies required to be on the aircraft in accordance with pertinent airworthiness requirements and operational regulations are classified as dangerous goods. Spare parts and supplies intended as replacements for these may be packaged in containers which have been specially designed for their transport, provided such packaging provide a level of protection which is at least equivalent to that which

would be provided by a container designed as specified in the applicable regulatory document. [reference ICAO Part 1, Chapter 2, Paragraphs 2.3.1(a) and 2.3.2(a) or IATA DGR Subsection 2.5, or 49 CFR 175.10(a)(2)].

A package provides an equivalent level of protection if it is capable of passing the tests required in 49 CFR Part 178, or ICAO Part 7, Chapters 3 through 7 or the IATA DGR Section 10 as authorized by 49 CFR Section 171.11. If an equivalent level of protection can be sufficiently demonstrated, the packaging tests required for UN specification packaging are not necessary.

PACKAGING OF ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

1. PURPOSE

The purpose of this chapter is to provide packaging requirements for electrostatic discharge sensitive devices. It also provides instructions for labeling and handling of such devices.

2. APPLICATION OF STANDARDS

All applicable packaging provisions of this specification will be adhered to in addition to the requirements specified in this chapter.

Electrostatic discharge sensitive devices will be individually packaged in appropriate protective packaging and labeled with ESDS precautionary labels. See Figures 6.1 and 6.2.

3. PHYSICAL REQUIREMENTS

Materials

Electrostatic discharge protection shall be provided by a plastic bag or container that is conductive, static dissipative or antistatic having sufficient properties to provide electrostatic discharge protection to electrostatic discharge sensitive devices and assemblies such as microelectonic metal oxide semiconductors (MOS), field-effect transistors (FET) and printed circuit boards (PCB).

Cushioning materials shall provide electrostatic discharge protection and be non-corrosive.

Packaging materials shall have a maximum surface resistivity of 10--14 ohms per square centimeter, when tested in accordance with ASTM D257-66 and a maximum bleed-off time of 2 seconds for 5,000 volts static of Federal Test Standard 101.

Dust covers and connector protective caps will be conductive or fabricated out of plastic that affords equivalent protection to static sensitive devices. Conductive covers or caps must be marked "conductive".

Insulating or static producing material such as polyethylene bags shall not be used to package static sensitive devices where the material is in direct contact with the item being packaged. Metal-encased devices that have static sensitive components must be fitted with conductive or equivalent dust covers or connector caps before being packaged directly in polyethylene bags or wraps.

Design and Construction

Packaging shall be designed to provide physical and environmental protection to electrical and electronic parts and assemblies during transportation, storage and handling up to the point of use by the customer.

Basic packaging and labeling methods depicted in Figure 6.1 apply.

Markings

Packaged items will be marked in accordance with Appendix II and this chapter.

Unit containers will be labeled with an appropriate internationally recognized caution label or equivalent as depicted in Figure 6.2.

The manufacturer of a static sensitive device will affix an appropriate ESDS warning label to the item when required, located preferably near the part number as depicted in Figure 6.1.

Handling

Items subject to electrostatic discharge damage shall not be subjected to an environment that would cause damage to the item during handling and packaging.

Electrostatic discharge sensitive devices subject to electrostatic discharge damage must have an ESDS label affixed to the packaged item identifying it as an ESDS item for handling purposes.

Metal-encased electrical assemblies (black boxes) with protective material can be safely handled without protective caps or covers installed.

Metal-encased assemblies bagged or wrapped in static discharge protective material can be safely handled without protective caps or covers installed.

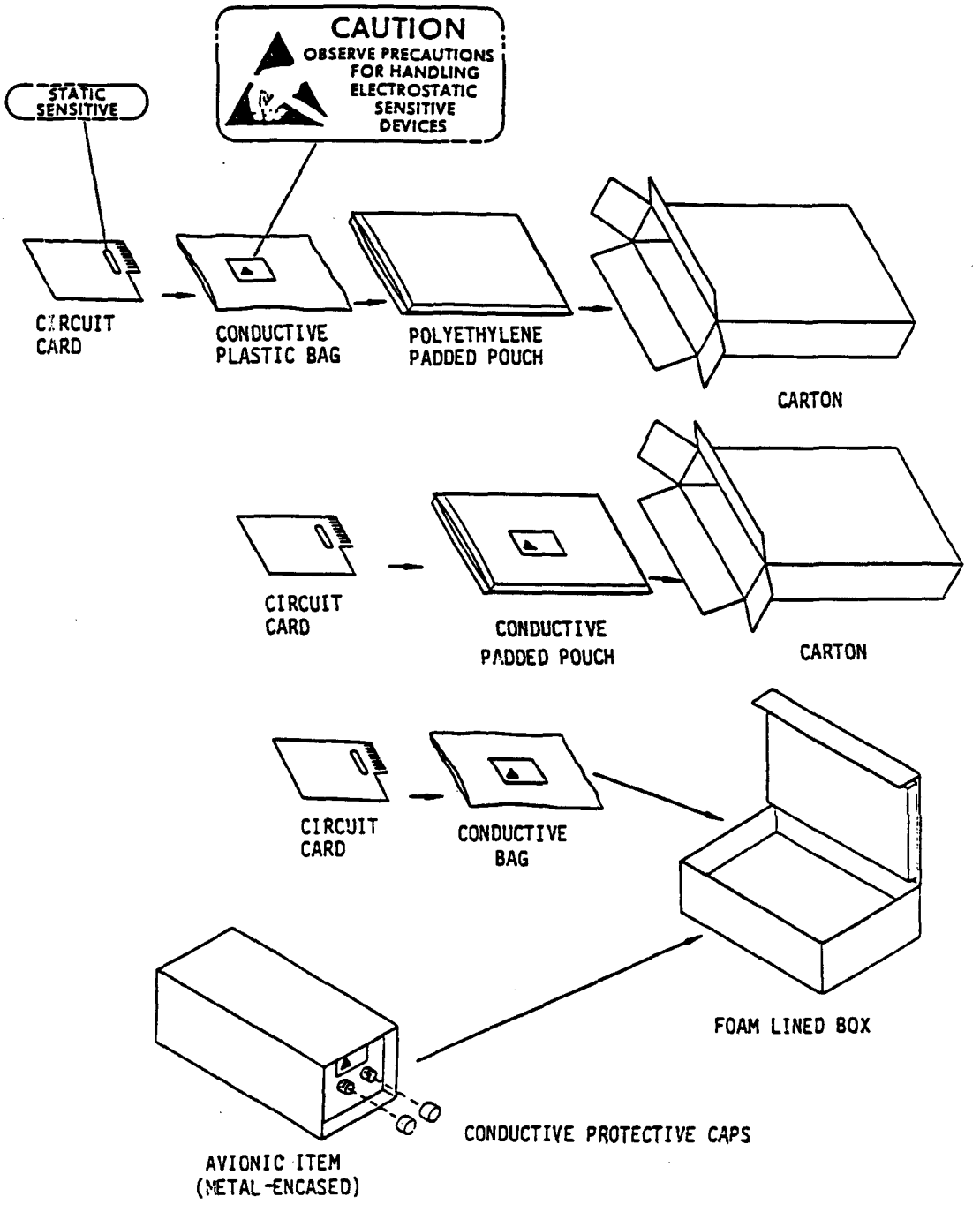
Metal-encased assemblies, which contain static sensitive items and which are labeled with a caution label indicating the unit is not subject to electrostatic discharge damage unless opened or disassembled, can be safely handled without protective bags, covers or caps installed.

Bare static sensitive devices subject to static discharge damage must not be handled or packaged unless this process is accomplished in a safe work area environment.

4. ILLUSTRATIONS

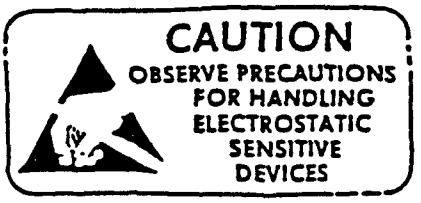
Packaging of Electrostatic Discharge Sensitive Devices - Figure 6.1

Electrostatic Discharge Sensitive Device Labels - Figure 6.2

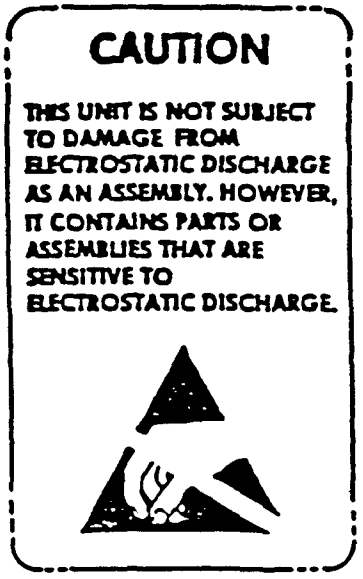


PACKAGING OF ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

FIGURE 6-1



UNIT PACK LABEL FOR BAGS, ETC.



AVIONIC COMPONENT LABELS (METAL-ENCASED)

STATIC-SENSITIVE COMPONENT LABELS
(FOR CIRCUIT CARDS, ETC.)

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE LABELS

FIGURE 6-2

GENERAL REQUIREMENTS FOR CATEGORY I AND II REUSABLE CONTAINERS

1. PURPOSE

The purpose of this chapter is to provide general requirements for the design of Category I and II reusable shipping containers and to provide minimum material and design performance levelsfor them. These requirements are intended to produce a given container that will be capable of containing an item and protecting it from damage for the number of round trip shipments indicated by its category classification.

In addition to meeting the requirements of this specification, Category I and II container designs must be tested in accordance with Appendix II Inspection/Tests and meet the minimum criteria described in that section for the applicable reusability Category I or II.

2. PHYSICAL REQUIREMENTS

Container Materials

Materials used in the construction of reusable containers shall be of good quality and sufficient to protect the contained item from the elements and other normal hazards to which it may be subjected during intermodal transportation.

Standard parts (SAE, AN, MS, NAS, AGS, JAN, etc.) shall be used wherever possible.

Containers shall be constructed from one or more of the following materials, not including interior dunnage material:

Category I Container Materials	Category II Container Materials
Metal	Wood
Plastic	Fiberboard
Fiberglass	Cardboard
	Any Category I material

Note: All materials must be of sufficient thickness, strength, quality and design to pass all other applicable requirements of this specification including container testing per Appendix II.

Containers constructed of material combinations in a synthesis or lamination process (such as plywood permanently fastened or laminated to a plastic sheet) or containers constructed of materials which are not listed above, shall be categorized under the appropriate category consistent with the material's ability to meet all performance criteria listed in this specification and the container's ability to comply with the testing requirements outlined for the given category of container in Appendix II.

Materials shall maintain performance characteristics and be capable of withstanding long term exposure to a temperature range of (-40 F to 130 F or -40 C to 54 C).

Materials shall withstand deterioration by industrial solvents, hydraulic fluid, petroleum products and jet fuel to which the container may normally be subjected.

All metallic parts shall be corrosion-resistant or suitably protected against corrosion.

For Category I containers, materials shall be treated or otherwise engineered for protection against deterioration caused by moisture, molding, rotting and ultra-violet radiation.

All Category I containers must be capable of passing the impact resistance test which consists of a bar of 3.2 centimeters in diameter with a hemispherical end, weighing 6 kilograms being dropped with its longitudinal axis vertical, onto the weakest point of any exterior surface of the container. The drop shall be 0.5 meters from the bottom of the bar to the top of the container surface. Failure occurs if the bar either penetrates the outer wall or permanently damages it in a manner which will degrade the structural strength of the container or container wall.

Design and Construction

Every effort should be made to design the container so that it will be transportable in as many models of commercial passenger aircraft types as possible, especially the aircraft type(s) on which the item is installed.

Containers transportable by air shall be so designed that distribution of load will not exceed 150 lbs per square foot or the applicable maximum cargo floor load limits of the transporting aircraft.

Reusable shipping containers shall be of one-piece construction unless the contained item is attached to a side of the container which must be separated to gain access to the part. In this case, the container side shall be attached, where practical, to the container by limit chains, straps, or other means to prevent loss.

Designs which utilize a "box within a box" concept must have the interior box permanently attached and have a label which states "NOT A SHIPPING CONTAINER".

There shall be no loose container parts that could become detached and lost except this requirement does not apply when impractical (such as bolts used to secure part in container).

Container design shall provide complete enclosure and incorporate vents or drains where required.

There must be no sharp edges or corners which could cause injury or damage.

Design, insofar as practical, shall render the contained item less susceptible to loss or tampering.

Category I containers shall be capable of repair to full serviceability. Upon request, manufacturers of Category I containers shall make available repair instructions and materials.

Configuration and Size

Size of packages is extremely critical and must be restricted to the minimum commensurate with the dimensions and fragility of the item packaged.

Containers shall be designed to hold as many different parts as practical.

Inside container dimensions shall not exceed the measurements of the item to be contained by more than 20 cm (8 in) in any dimension.

Conventional rectangular shapes shall be used in construction of reusable shipping containers whenever practical. To enhance transportability of large items, contoured (non-rectangular) shipping containers are acceptable.

Interior Cushioning

Containers shall protect the item from shock or vibration to the degree specified by the component manufacturer.

Delicate materials as described in Chapter 2, during drop testing from a drop height of 1 meter measured from the bottom of the container to the floor or drop surface, must not have a deflection of less than 60% into the cushioning material, and the unit must not be capable of 'bottoming out' at that drop height.

For the purpose of this specification, all materials and devices used internally in reusable shipping containers for the purpose of absorbing shock are considered to be cushioning materials. Materials shall possess the following properties:

Resilient
Non-Dust Producing
Mold Resistant
Durable (Capable of lasting the life of the container)

All cushioning material shall be permanently attached to the container sides. Additional void fill material such as plastic bubble wrap or foam sheets may be added to restrict movement of an item within its container as long as the material is reusable and does not reduce the cushioning characteristics of the container. Loose fill, rags or newspaper are not acceptable.

Simplicity of operation is a paramount design requirement. Insertion and removal of the part must be uncomplicated and difficult to accomplish in any way other than the proper manner.

It is acceptable to have dunnage material which is adjustable and interchangeable. Adjustable materials, while fixed to the containers, are capable of adjustment to receive varying sizes of units. Interchangeable materials may be switched between parts and/or containers. Containers using the "dunnage board" principle fall into this type.

Shock absorbing devices such as shock mounts, air cylinders, or chambers, etc., shall be suitable for use when designed to provide the protection required.

Miscellaneous wadding such as newspaper or rags, and loose fill packing materials such as plastic 'chips' or 'peanuts' shall not be used as dunnage.

Foam-in-Place (FIP) dunnage is not acceptable for use in Category I containers.

Lids

Lids shall be designed to prevent warping.

Where otherwise separate lids are used, limit chains, straps, or other means shall be provided to prevent cover loss or damage. Lid limiting devices presenting potential damage to the packaged unit or container closure mechanism shall be sleeved or positioned to protect against this possibility. For containers with large lift-off lids, this requirement is waived.

Lids will not be nailed or glued to the container sides and, in the case of Category I containers, shall be equipped with hinges with appropriate limit devices (lid stays).

Closure Fasteners and Hardware

All hardware, including fasteners used to secure a lid closed, shall be recessed, flush or guarded so that no protrusions could cause damage to the container or to other goods shipped in the same conveyance.

The design should avoid the need for special opening or closing tools other than a band or tape-cutting device and/or a common tool.

Taping, banding, or the use of straps and buckles as closing devices are not acceptable for Category I containers.

Handles/Hand Holds

All handles, hand holds or grips shall be recessed flush with the container surface. Where size or configuration does not permit the use of recessed handles, the use of guarded, surface mounted handles is acceptable.

The number of handles or hand holds required on reusable shipping containers is based on meeting the given container volume and/or the maximum gross weight parameters shown in the table below.

# OF HANDLES	CONTAINER VOLUME	MAXIMUM
none	less than 0.033	< 16 kg
one or more	0.033 to 0.057	16 to 34 kg
two or more	greater than 0.057	> 34 kg

When two or more handles or hand holds are used, they shall be positioned on opposite sides of the container at the center of balance and not more than 1/3 of the container height measured from the top.

Handles shall be positioned to provide balance when the loaded container is lifted.

Notwithstanding the requirements outlined above, containers of smaller volumes or weights may be equipped with handles or hand holds if they are required for more efficient handling.

Where hand holes are used for handling purposes, the interior shall be covered to protect against dust and moisture entering the container.

Material Handling Devices

Where the weight, size or configuration of the container cap/lid precludes manual removal/opening, a material handling device (e.g. nylon straps, eye bolts, etc.) shall be provided to facilitate the opening of the container. It should:

- Provide protection for the contained item.
- Adhere to all applicable provisions of this specification.
- Utilize materials with good strength-to-weight ratios and corrosion resistance and be durable for the life of the associated shipping container.
- Aid in transportability and handling and be compatibile with material handling equipment and ground support equipment (towing, slinging, lifting, etc.).

- When required, provide for additional functions such as assembly, testing, installation fixtures.
- The construction of the material handling devices must withstand the tests described for reuseable containers. See Appendix II - Inspection/Tests.

Skids

Containers designed for gross weights over 90 kg (200 lbs) or gross sizes over 0.028 cubic meters (27 cub. ft.) with minimum bottom area of 0.093 sq. meters (9 sq. ft), shall be equipped with skids or supports allowing at least 7.6 cm (3.00 in.) ground clearance for materials handling equipment. Skid height requirement is waived when it unduly restricts transportability or prevents shipment of the item due to the height of the shipping container.

Skids are to be permanently attached to ensure the skids can withstand severe impact on any side of the skid.

Stackability

All containers having a surface exceeding 0.37 square meters, must be capable of holding an object centered on that surface which weighs 135 kg with a 0.09 square meter platform base for a period of 24 hours. The lid shall not deflect as to touch the part. In addition, there must be no fracturing or other permanent degradation of the container structure.

Colors

Colorfast white containers are required for Category I containers and optional for Category II containers. Where traditional colors are a part of the carriers' "stock-in-trade" or trademark this requirement is waived, however very dark colors should be avoided because of visibility requirements during nighttime airline operations.

Markings

All reusable shipping containers shall be marked in accordance with Appendix II of this specification.

Inspection/Tests

Reusable shipping containers will be tested in accordance with Appendix III - Inspection/Tests.

GENERAL REQUIREMENTS FOR CATEGORY III CONTAINERS

1. PURPOSE

The purpose of this chapter is to provide general requirements for the design of Category III shipping containers and to establish minimum material and design performance levels so that a given packaging will be capable of containing an item and protecting it from damage.

In addition, specifications for Category III packagings are intended to allow aircraft parts to be binned, issued and handled in a manner that compliments the warehousing and distribution of material at aircraft overhaul facilities.

2. PHYSICAL REQUIREMENTS

Materials

Materials shall be sufficiently durable to properly protect the packaged item during normal shipping and handling processes.

Transparent, translucent and opaque packaging materials which render the packaged item visible without opening the package prior to use shall be used when possible and shall be consistent with protection and identification requirements of the item packaged.

Foam sheets, bubble wrap, or other cushioning and void fill materials are acceptable but must be non-dust producing and mold resistant. Miscellaneous wadding such as newspaper or rags, and loose fill packing materials such as plastic 'chips' or 'peanuts' shall not be used as dunnage. Loose fill absorbent is acceptable when required for shipment of liquids.

All packaging materials, including the outer containers and inner packings, shall be reusable to the greatest extent possible and shall utilize recycled post consumer waste where available and feasible. Where reusable and recycled materials are not available or practical, packaging shall consist of biodegradable or recyclable materials, or otherwise entail processes and designs which promote waste minimization and environmental consciousness.

Design and Construction

Category III containers shall provide adequate protection for normal transportation and storage conditions and must do so for at least the active life of the item contained therein.

The design, construction and degree of durability of Category III containers will vary depending on the nature of the material being protected and its intended use and handling. The three basic types of Category III containers are the Unit Container, the Single Trip Container, and the Round Trip Container.

Unit Containers - When authorized for Class A and minor repairable items in Chapter 3, unit containers are designed to be consolidated into a larger Category III shipping container. When removed from its larger container, the unit container must be capable of protecting the part during normal on-site warehousing and material handling operations without additional packaging.

Single Trip or One-way Category III Containers - When the part is required to make a one way trip as in the case of expendable Class A and B materials as defined in Chapter 3, the parts must be packaged in a manner that will allow handling and distribution as outlined in Chapter 3.

Round Trip Category III Containers - When a part is required to make a complete round trip, as in the case of a minor repairable item, the shipping container and packing materials must be capable of being reused for reshipment of the part back to the repair or warranty facility, while providing adequate part protection.

Markings will be applied in accordance with Appendix I - Markings.

Inspection/Tests

Expendable shipping containers and expendable unit packaging will be subject to commercial tests referred to in Appendix II - Inspection /Tests.

MARKINGS

Markings shall be clear, legible, nonfading, durable and contrasting.

Arrange markings so that the opening and reclosing of the container will not cause loss of identification.

For additional Kit markings see Chapter 4. For additional Dangerous Goods markings see Chapter 5. For additional Electrostatic Discharge Sensitive device markings see chapter 6.

Identification Markings

Mark all unit, intermediate, and exterior shipping containers by stencilling, printing, stamping, or by the use of labels or tags. When bar code labels/tags are used, they must be in compliance with ATA Specification 200/2000, Chapter 9 - Bar Coding.

Identification markings shall be placed on the surface of the package which is intended to be the front when stored.

Identify all unit containers with the following information:

(A) Part number
(B) Shipment quantity
(C) Unit of measure
(D) Special markings (when applicable)
- Part Serial Number
- Manufacture Date
- Expiration Date
- Shelf Life Code
- Hazardous Material Code
- Storage Requirements
- Handling Requirements
- Part Usage Restrictions

Identify the exterior of all outer shipping containers with the following information:

(A) Address Label
(B) Gross weight
(C) Customer Order Number(s)
(D) Supplier Code
(E) Packing Sheet Number
(F) Master Carton Number

Bar code identification markings on unit, intermediate and exterior shipping containers may be used in addition to conventional markings specified in this document but not as a substitute for such markings.

Permanent Markings for Category I and II Containers

All Category I and II containers shall have the permanent markings indicated on Figure I A.2 along with the applicable minimum letter size and location.

Permanent markings shall be applied by use of hot stamping, engraving, or other equivalent means of embossing the image into the surface. For wood, fiberboard, fiberglass, or other materials which do not permit embossing, the printing or stencilling of markings is acceptable provided the markings will withstand long term exposure to the elements and abrasions normal to shipment and handling.

Labels are not acceptable for permanent markings except for handling or precautionary labels where specifically authorized by the container customer.

Containers imprinted with "Glass, Do Not Drop or Throw" or "Glass, Handle with Care," or a similar permanent marking do not require fragile labels.

Use of the internationally recognized "FRAGILE" and "PACKAGE ORIENTATION (THIS WAY UP)" label or marking is preferred. See Figure I A.5.

Multipacks

When assorted items are consolidated into one container, use the word "MULTIPACK" in lieu of Part Number, Quantity and Unit of Measure.

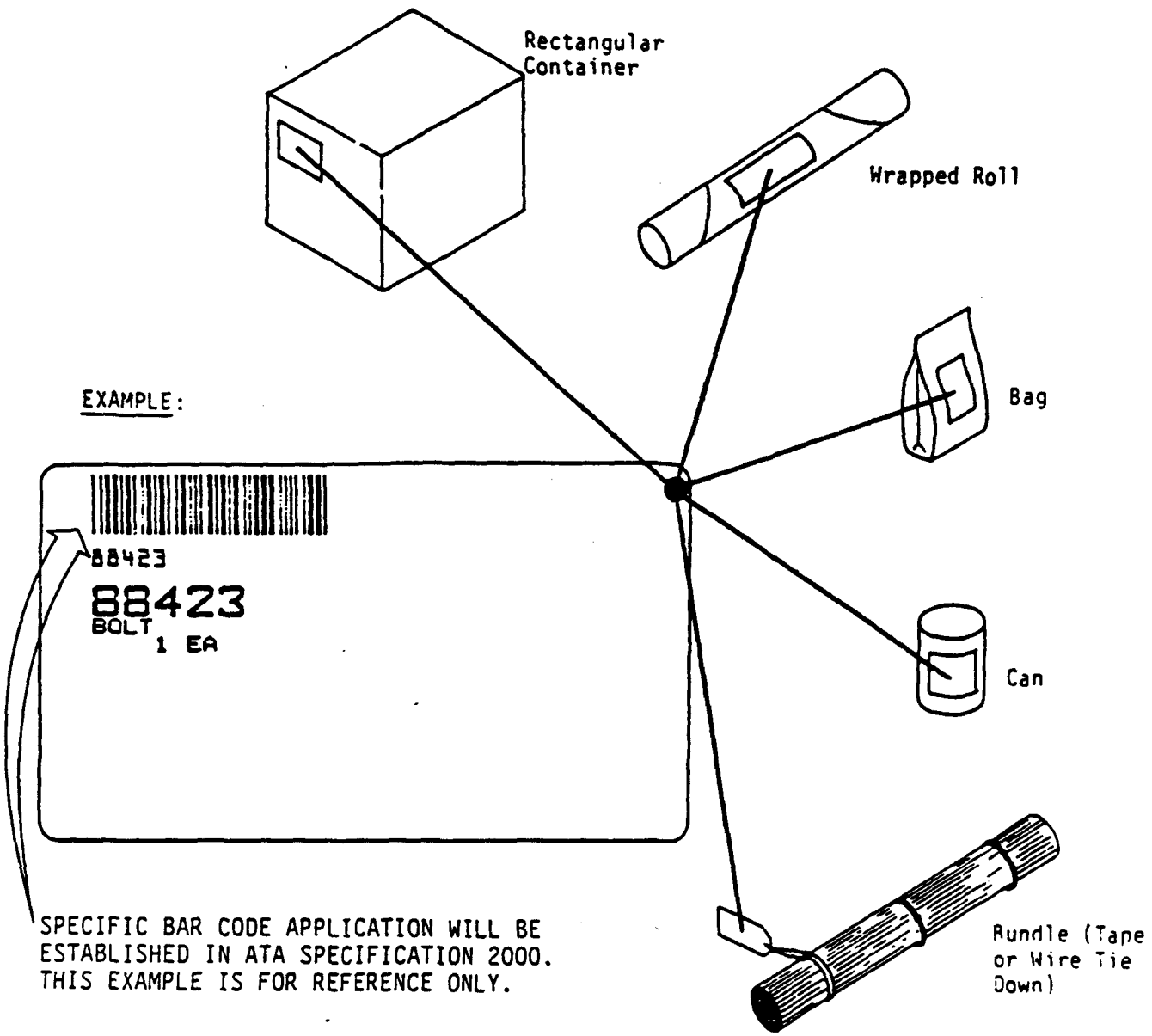
EXAMPLE MULTIPACK
2/86

Multiple Containers

When the quantity of a shipment is too great for one container and must be shipped in multiple containers, indicate the box number and the total number of boxes directly beneath the Identification Markings.

EXAMPLE 88423
BOLT
25 EA
SERIAL NO. 1-25
"BOX 1 OF 4"

AOG Shipments - For AOG shipments only, place an AOG Label on the container near the address markings. See Figure I A.5.



LOCATION OF IDENTIFICATION MARKINGS
FIGURE I A.1

PERMANENT MARKINGS, LOCATIONS & SIZE FOR VARIOUS CONTAINERS
FIGURE I A.2

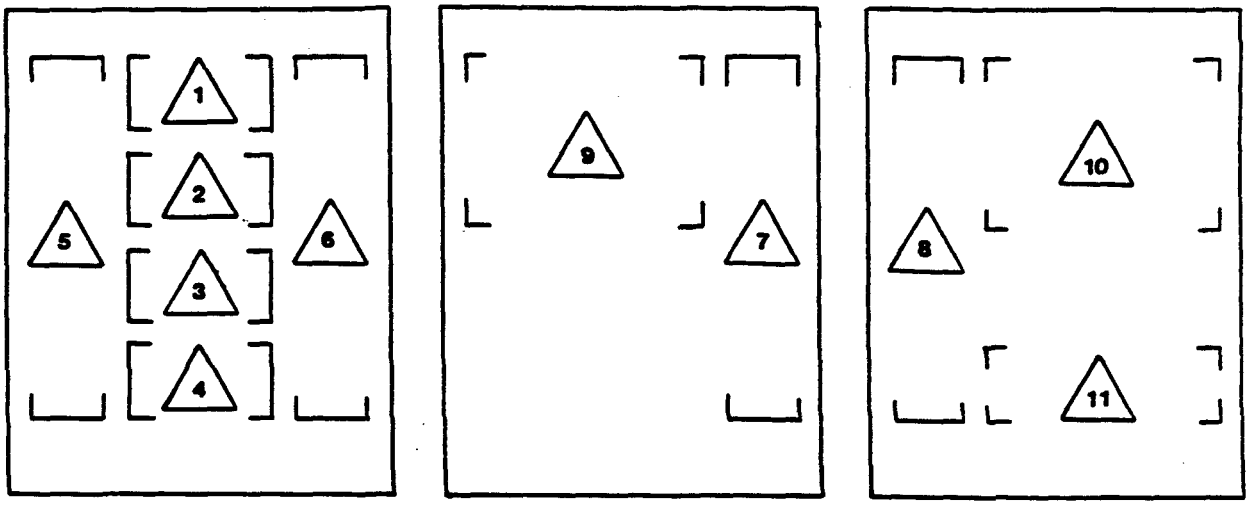
MARKINGS	MINIMUM LETTER SIZE	LOCATION
REUSABLE CONTAINER ATA SPEC. 300 CATEGORY I (or Category II as applicable)	1/2"	Lower part of front & back panels
Airline or Component Mfg Insignia (when required)	1" letters or 3" logo	Center of front & back panels
Container Manufacturer name (mandatory on Cat I cntrs only)	1/4"	Lower part of any side panel
Container Part Number (when required)	1/2"	Upper part of front & back panels
DELICATE UNIT (for delicate units only)	1"	Upper center of front & back panels
Center of Balance with arrow (when required)	1"	Lower part of front & back panels
Structural Markings (when required)	1/4	On or near the structure described
Precautionary Markings (when required)	as applicable	Upper center of front & back panels
Orientation Arrows (when required)	as applicable	Upper corner of front & back panels

NOTES

(1) When the lettering specified in the table cannot be stencilled in the space provided, the largest letters possible will be used.

(2) When the box size is such that a single panel exceeds 1000 square inches, each letter size shown above shall be doubled.

(3) Minimum spacing between lines shall not be less than 1/4 inch.



OPPOSITE SIDES (LH)* END (HW)* OPPOSITE END (HW)*

*REFERENCE FIGURE 2.1 CHAPTER 2

EXPLANATIONS	
LOCATIONS	MARKINGS, INSIGNIA, STATEMENTS
1	DELICATE UNIT
2	HANDLE WITH CARE
3	REUSABLE CONTAINER ATA SPEC. 300 (CATEGORY I)(OR II AS APPLICABLE)
4	CUSTOMER OR COMPONENT MFG INSIGNIA
5 6 7 8	ARROW (6" MINIMUM LENGTH)
9	LABEL OPPOSITE SIDE
10	PLACE LABELS HERE
11	CONTAINER MFG NAME & P/N (1/4" LETTERS MAX)
12	CENTER OF BALANCE WITH 1/2" x 3" LINE
13	STRUCTURAL MARKINGS - LOCATE INFORMATION OR INSTRUCTIONS ON OR NEAR THE STRUCTURE DESCRIBED
14	PRECAUTIONARY MARKINGS - SEE PARAGRAPH C.1.4

PERMANENT MARKINGS & LOCATIONS

FIGURE 1 A.3

MARKING LETTER SIZE FOR VARIOUS CONTAINERS - INCHES

CONTAINER SIZE	1 SIZE	2 SIZE	3 SIZE	4 INSIGNIA	5 6 7 8 SIZE	9 SIZE	10 SIZE	11 SIZE	12 SIZE	13 14 SIZE
L = Less than 10 H = Less than 6	Not Required	Not Required	Not Required	Required	Not Required	Required	Required	Not Required	Not Required	Required
L = 10 to 18 H = 6 to 10	1/2	1/2	1/4	1/2	(1)	1/4	1/4	CATEGORY 1 ONLY	(2)	(3)
L = 19 to 24 H = 11 to 16	1	3/4	1/2	1	(1)	1/2	1/2			
L = 25 to 36 H = 17 to 24	1-1/2	1	3/4	1	(1)	1/2	1/2			
L = 37 to 52 H = 25 to 36	2	1-1/2	1	1-1/2	(1)	1	1			
L = Over 52 H = Over 36	4	3	1	2	(1)	1	1			

FOOTNOTES: (1) Arrows (6" minimum length, space permitting) are required.

(2) Center of balance shall be shown with a 1/2 inch x 3 inch line (when applicable) running perpendicular to base of container.

(3) Minimum 1/4 inch except sufficient size required to clearly identify.

GENERAL REQUIREMENTS:

(1) Letter sizes shall not exceed a maximum of four inches or minimum of 1/4 inch.

(2) When the lettering specified in the table cannot be stenciled in the space provided, the largest letters possible will be used; reference the size required for lesser dimension.

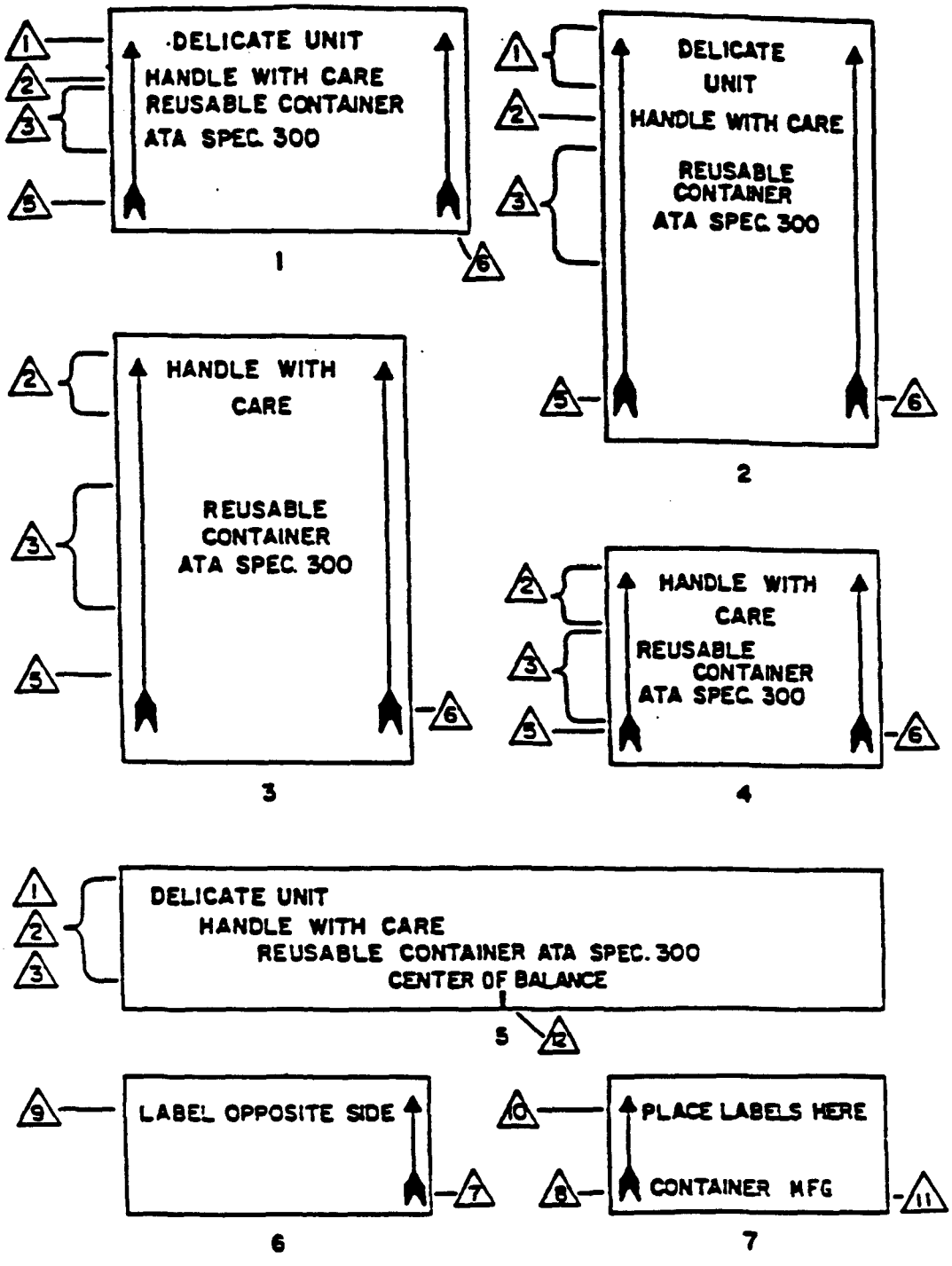
(3) Minimum spacing between lines shall not be less than 1/2 inch.

(4) Marking shall be arranged on the container as shown in Figure II A.2.

(5) Nondelicate items omit Note 1

MARKING LETTER SIZE FOR VARIOUS CONTAINERS - INCHES

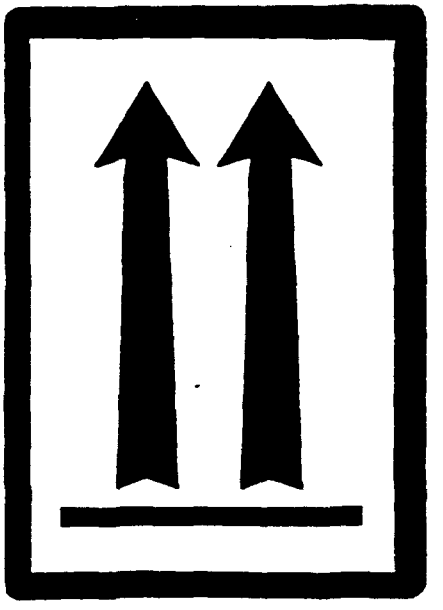
FIGURE 1 A.4



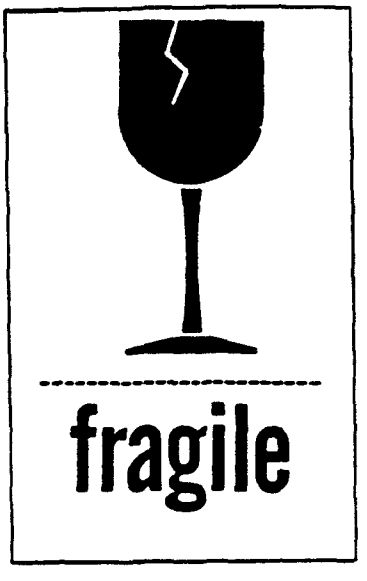
LOCATION OF MARKINGS & LABELS FOR VARIOUS CONTAINERS

FIGURE I A.5

A.O.G. LABEL
(Color - Red on White)



PACKAGE ORIENTATION
(THIS WAY UP)
(Color - Red or Black on White)



FRAGILE LABEL
(Color - Optional)

FIGURE I A.6

APPENDIX II - INSPECTION/TESTS

A.1. Test Requirements - Inspection/tests for shipping containers shall be conducted by the manufacturer of the item to be packaged or his designee to assure conformance with the requirements of this specification and adherance to design drawings for the container.

A.2. Tests outlined for reusable shipping containers shall be conducted in accordance with the following selections:

Category I - Conducted on prototype container of each design prior to production and on at least one other container of that design selected at random from the first production lot. Where any element of the deisgn or material used is altered, this process will be repeated.

Category II - Conducted on each container design prior to or during production and on at least one other container of that design selecteed at random from the first production lot. Where the design or material used is altered, this process will be repeated.

Except for the number of containers tested (which are outlined above), tests on both categories shall be conducted in accordance with American Society for Testing Materials (ASTM) "Standard Methods for Test of Shipping Containers," Part 20 as revised, amended or replaced, and as specified herein.

A.3. Tests applied to continers for expendable items shall be in accordance with generally accepted commercial testing methods.

B.1. Tests - Reusable shipping containers will be subjected to tests specified in this section.

B.2. Drop test or Revolving Hexagonal Drum Test - One of the following tests shall be conducted at the option of the party conducting the tests:

B.2.1. Drop tests shall be conducted in accordance with ASTM Designation D-775, objectives A and B, for containers that are normally handled manually in shipment. The procedures shall be that for constant-height drops and in accordance with Figure III A.1 of this section. In each case, Face, Edge and Corner drops shall be performed. Containers of such bulk and weight that cannot be handled manually, shall be tested in accordance with the "Standard Methods of Testing Large Shipping Cases and Crates" (ASTM Designation D-880 or D-1083) in accordance with Figure III A.2.

B.2.2. Revolving Hexagonal Drum Tests shall be conducted in accordance with the ASTM Designation D-782, Procedures A and B as applicable to loaded containers of gross weights nor exceeding 250 pounds (113 Kg.). For gross weights in excess of 250 pounds (113 kg.) the appropriate requirement outlined above shall apply.

The total revolutions for drum tests shall be as follows:

Category I - 100
Category II - 10

B.3. Test for Water Spray Resistance - Water spray resistance tests shall be conducted on Category I containers in accordance with ASTM Designation D-951 for a period of not less than one (1) hour.

B.4. Vibration Test for Category I containers - Vibration tests shall be conducted on Category I containers in accordance with ASTM Designation D-999, Procedures B, within the range of 5 to 50 cycles per second for a period of not less than two (2) hours.

C.1. Cause for Rejection - At the conclusion of the test, the contents of the pack, its interior shock-absorbing materials and devices shall not show any changes that affect their utility. The interior or exterior of the container shall not reveal any faulure of the container or shifting of the part.

D.1. Tests for Preservation Packaging - The efficiency of sealed barriers or containers which provide preservation shall be determined in accordance with generally accepted quick-leak or vacuum retention tests.

E.1. Records and Certification - The supplier shall maintain records of tests containing the elements of the appropriate ASTM designation "Report" section and provide copies of these records to ATA and/or the supplier's

customers upon request. Containers of either category from a particular production run which have successfully deomonstrated compliance with requirements of this specification shall be marked "ATA Spec 300" and "Reusable Container" and "Category I" or "Category " as applicable in accordance with Appendix II. This shall be representation to the customer of this compliance.

F.1. Illustrations

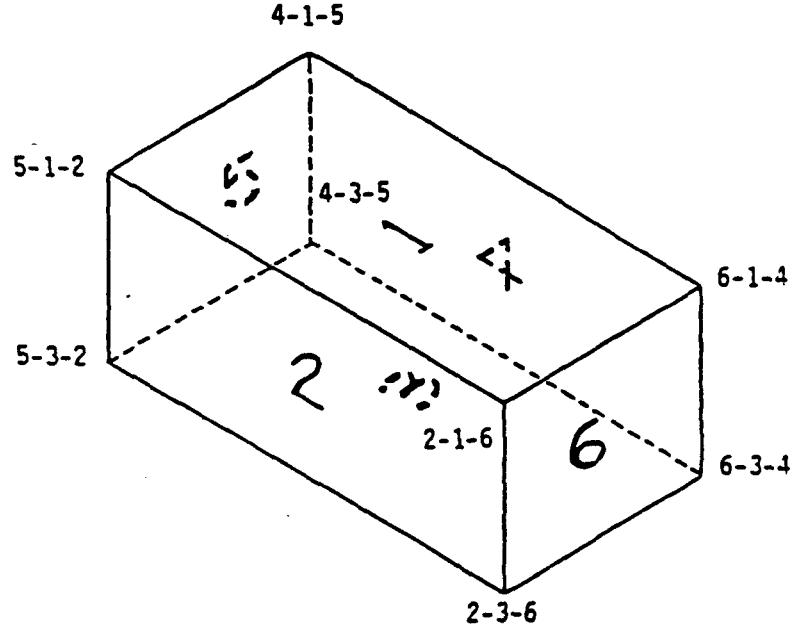
F.2. Figure II A.1. - Height and Number of Drops

F.3. Figure II A.2. - Impact Velocity and Sequence for Incline Impact Test Per ASTM D-880

GROSS WEIGHT Not Exceeding Pounds	DIMENSIONS ON ANY EDGE Not Exceeding Inches	FACE DROP TEST (Height & Number of Drops)		EDGEWISE DROP TEST (Height & Number of Drops)		CORNERWISE DROP TEST (Height & Number of Drops)	
		Category I	Category II	Category I	Category II	Category I	Category II
		160 Drops at (Inches)	16 Drops at (Inches)	80 Drops at (Inches)	8 Drops at (Inches)	40 Drops at (Inches)	4 Drops at (Inches)
50	36	30	22	36	27	36	27
100	48	21	16	36	27	36	27
150	60	18	14	36	27	36	27
200	60	16	12	36	27	36	27
600	72	16	12	36	27	36	27
3000	No Limit	16	12	24	18	24	18
No Limit	No Limit	16	12	12	9	12	9

HEIGHT AND NUMBER OF DROPS
FIGURE II A.1.

GROSS WEIGHT OF CONTAINER AND LOAD SHALL NOT EXCEED 1000 POUNDS	
EDGE IMPACT SEQUENCE AT EACH VELOCITY Edge Numbers 1-5, 1-2, 1-6, 1-4, 3-5, 3-2, 3-6, 3-4, 5-2, 6-2, 6-4	This sequence will be performed with one impact on each edge in sequence shown, at the following velocities: 6 ft. per sec., 8 ft. per sec., 10 ft per sec., and 12 ft per sec. for a total of 96 impacts on the container edges (Two complete cycles of 48 impacts each).
CORNER IMPACT SEQUENCE AT EACH VELOCITY Corner Numbers 2-3-6, 6-3-4, 4-3-5, 5-3-2, 2-1-6, 6-1-4, 4-1-5, 5-1-2	This sequence will be performed with one impact on each corner in sequence shown at the following velocities: 6 ft. per sec., 8 ft. per sec., 10 ft. per sec., and 12 ft. per sec. for a total of 128 impacts on the container corners (Four complete cycles of 32 impacts each).
This test may be used in lieu of Drop Test shown in Figure II A.1. only when contianer is of such bulk and/or weight that it cannot normally be handled manually.	



Impact Velocity and Sequence
For Incline Impact Test Per ASTM D-880
Figure II A.2.

APPENDIX III - GLOSSARY OF TERMS

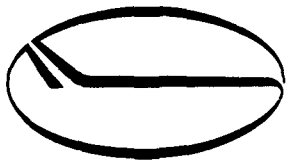
TERM	DEFINITION
Age Control	Rubber or rubber like items with a cure date and having a useful life limit control date after which it can no longer be used
Antistatic Material	Electrostatic discharge protective material having a surface resistivity greater than 10^9 but not greater than 10^{14} ohms per square centimeter
ATA Specification 200	Specification for the exchange of information pertaining to provisioning, order placement and shipment of aircraft related material, between suppliers and airlines (Replaced by ATA Specification 200)
ATA Specification 2000	Specification for the exchange of information pertaining to provisioning, order placement and shipment of aircraft related material, between suppliers and airlines (Replaces ATA Specification 2000)
ATA Specification 300	Specification for the packaging of airline supplies shipped by suppliers to customers
Bar Code	Computerized information system using 3 of 9 bar code symbology with human readable interpretation (HRI)
Category I Container	A reusable shipping container capable of shipping an item for a minimum of 100 trips usually fabricated out of plastic and/or metal
Category II Container	A reusable shipping container capable of shipping an item for a minimum of 10 trips usually fabricated out of wood or fiberboard
Category III Container	Expendable packaging for expandable items
Category IV Container	Expendable packaging for kits

TERM	DEFINITION
Class A Items	Selection of items which are to be packaged individually in a package
Class B Items	Selection of items which may be packaged in quantities of more than one per package
Component Maintenance Manual (CMM)	A manual containing repair procedures that will enable a mechanic who is unfamiliar with the item to restore it to serviceable condition
Conductive Material	Electrostatic discharge (ESD) protective materials having a surface resistivity of 10^5 ohms maximum per square centimeter
Cure Date	Date of manufacture of a rubber or rubber like item. May also be date item was installed in an assembly or the packaging date. This date is used to control first-in, first-out storage and issue process.
Dangerous Goods	ICAO designation for hazardous materials. See hazardous materials
Electrostatic Charge	Electrical energy at rest
Electrostatic Discharge (ESD)	A transfer of electrostatic charge between bodies at different electrostatic potentials caused by direct contact or induced by an electrostatic field
Electrostatic Discharge Sensitive (ESDS) Device	A device whose physical or electrical characteristics can be altered as a result of an electrostatic discharge therough or across the surface of the item
Electrostatic Sensitive Device	Same as electrostatic discharge sensitive (ESDS) device
Expendable Item	Items for which no authorized repair procedure exists, and for which cost of repair would normally exceed that of replacement
Expendable Package	One-way trip package intended to be used once for shipment of an item by a supplier to a customer

TERM	DEFINITION
Faraday Cage	An enclosure made of materials sufficiently conductive to shield ESDS items from electrostatic fields
Fragility Factor	The anount of "G" force to which an item can be subjected without causing damage
Ground Support Equipment (GSE)	Equipment required on the ground to support the operation and maintenance of the aircraft and all its airborne equipment. Also known as Aircraft Ground Equipment (AGE)
Hazardous Material	Hazardous materials are articles and substances which are capable of posing a significant risk to health, safety or property when transported
Insulative Material	Materials having a surface resistivity greater than 10^{14} ohms per square centimeter such as polyethylene film which can generate, hold or induce an electrostatic charge
Item	Any level of hardware assembly (i.e., system, subsystem, module, accessory, component, unit, part, etc.)
Kit	Grouping of part(s) either expendable, reparable or a combination of both, created to accomplish modification outlined in service bulletin or to facilitate an installation
Life Cycle	The time that an item remains in service before it becomes uneconomical to repair or overhaul
Major Repairable Item	Major repairable tiems are defined for the purpose of this specifrication as items which can be economically restored to a fully serviceable condition and having a supporting Overhaul Manual (OHM) with a Recommended Speares Part List or a Component Maintenance Manual (CMM) with a matching "T" file. These items are packaged individually in reusable containers
Matched Set	Items usually consisting of two parts which should not be separated. They are matched sets, i.e., uniquely mated or associated.

TERM	DEFINITION
Material Handling Device	A type of special dunnage used to secure an item in a shipping container and which may be used to remove or replace the item in the container when due to size and weight it is difficult to handle
Metal-Encased Assembly	A unit which provides an effective Faraday cage about electrostatic sensitive items (ESDS). See Faraday Cage term
Minor Reparable Item	Minor reparable items are defined for the purpose of this specification as items which do not have a supporting Overhaul Manual (OHM) with a Recommended Spares Part List or a Component Maintenance Manual (CMM) with a matching "T" File. These items are either (1) packaged individually in expendable shipping containers when they can be economically repaired or (2) packaged in expendable unit containers when it is impractical to package the item in an expendable shipping container due to its small size, configuration and minor repair status
Overhaul Manual (OHM)	Now known as a Component Maintenance Manual. See definition for Component Maintenance Manual
Packaging Code	Packaging Code specifies the type of container, packaging requirements or material handling devices to be used when shipping subject parts per specified Order Number. See Packaging Requirement Code Capability in introduction
Reparable	See definitions for major and minor reparables and Chapters 1, 2, and 3
Restricted Articles	See Hazardous Material definition
Reusable	Capable of being used again or repeatedly
Rigid Pack	For the purposes of this specification, a rigid pack is a package such as a fiberboard container, folding carton or padded bag that affords greater protection than a paper or plastic bag
Shelf Life	See definition for Storage Life

TERM	DEFINITION
Standard Package Quality	Specifies the number of units of measure contained in a standard sales package
Static Dissipative Material	Electrostatic discharge protective materials which have a surface resistivity greater than 10^5 but not greater than 10^9 ohms per square centimeter
Storage Life	The length of time an item can be stored under specified conditions and still meet specified requirements
"T" File	All items contained in the Illustrated Parts List of the airframe, engine or component manufacturer's Component Maintenance Manual as spares
Unit Container	The first bag, carton or box applied to a single item or a quantity thereof, or to a group of items of a single part number which constitutes a complete or identifiable package. The unit container should be overpacked for shipment unless it is specifically designed to provide shipping protection
Unit of Measure	Specifies the type of count, measurement, container or form of the subject part and correlates to the Unit Price Amount



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